Claim Amendments

Claim 1 (currently amended). A device for controlling deposits on surfaces, comprising:

at least one body having two opposite longitudinal end surfaces and a surface on an outside of said body on which deposits occur and influence reflection properties of said surface to electromagnetic radiation inside said body;

at least one transmitter for transmitting electromagnetic radiation to said at least one body and reflecting the electromagnetic radiation off said surface inside said body, said at least one transmitter disposed at one of said opposite longitudinal end surfaces and being connected to said at least one body;

at least one detector for detecting a presence of the deposits at said surface, said at least one detector disposed at one of said opposite longitudinal end surfaces and being connected to said at least one body and measuring electromagnetic radiation received from said at least one transmitter after reflection at said surface, said at least one detector generating signals based upon the presence of deposits detected at said surface; and



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at least one ion exchanger connected to said detector for controlling the deposits at said surface, said at least one ion exchanger controlling the deposits in dependence on the signals generated by said at least one detector.

Claim 2 (original). The device according to claim 1, wherein said at least one transmitter introduces the electromagnetic radiation into said at least one body and the electromagnetic radiation reaches said at least one detector after internal reflection at said surface.

Claim 3 (original). The device according to claim 2, wherein the electromagnetic radiation reaches said at least one detector after multiple internal reflections in said at least one body.

Claim 4 (original). The device according to claim 1, wherein said at least one transmitter emits electromagnetic radiation at a predetermined wavelength dependent on a degree of change in electromagnetic radiation reflection properties by the deposits on said surface.

Claim 5 (original). The device according to claim 4, wherein said predetermined wavelength is selected to correspond to a



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maximum degree of change in electromagnetic radiation reflection properties by the deposits on said surface.

Claim 6 (original). The device according to claim 1, wherein said at least one detector is two detectors disposed with respect to said at least one transmitter to create paths of the electromagnetic radiation from said at least one transmitter to said two detectors having different lengths inside said at least one body.

Claim 7 (original). The device according to claim 1, wherein said at least one transmitter is two transmitters disposed with respect to said at least one detector to create paths of the electromagnetic radiation from said two transmitters to said at least one detector having different lengths inside said at least one body.

Claim 8 (original). The device according to claim 1, wherein said at least one body has a point at which the electromagnetic radiation is introduced at said at least one body and another point at which the electromagnetic radiation reaches said at least one detector, and said point and said another point are adjacent to one another.

Claim 9 (original). The device according to claim 8, wherein:



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said at least one body has a silvered surface for reflecting the electromagnetic radiation and an inside; and

said silvered surface directed toward said inside of said at least one body and substantially reflects the electromagnetic radiation for guiding the electromagnetic radiation to said at least one detector.

Claim 10 (previously-presented): The device according to claim 7, wherein:

said at least one body is a light-guiding body; and

the electromagnetic radiation propagates inside said light-guiding body.

Claim 11 (cancelled).

Claim 12 (original). The device according to claim 1, wherein said at least one body is made of a material having a refractive index greater than a refractive index of a medium surrounding said at least one body.



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Claim 13 (original). The device according to claim 12, wherein said medium is water.

Claim 14 (original). The device according to claim 12, wherein said material is glass.

Claim 15 (original). The device according to claim 1, including:

a connecting piece; and

a sensor part having said at least one body and being detachably connected to said connecting piece.

Claim 16 (cancelled).

Claim 17 (original). The device according to claim 1, wherein said at least one transmitter introduces the electromagnetic radiation into said at least one body at an angle maximizing a number of internal reflections of the electromagnetic radiation at said surface.

Claim 18 (original). The device according to claim 1, wherein:



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said at least one body has a central axis; and

said at least one transmitter introduces the electromagnetic radiation into said at least one body in a beam inclined at an angle relative to said central axis.

Claim 19 (original). The device according to claim 18, wherein said beam has a minimum amount of divergence.

Claim 20 (original). The device according to claim 1, wherein said surface of said at least one body is disposed in a liquid-conveying machine.

Claim 21 (original). The device according to claim 1, wherein said surface of said at least one body is disposed in a washing machine.

Claim 22 (original). The device according to claim 1, wherein said surface of said at least one body is disposed in a dishwasher.

Claim 23 (currently amended). A method for controlling deposits on surfaces, which comprises:



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providing at least one body having two opposite longitudinal end surfaces and a surface on an outside of the body on which deposits occur and influence reflection properties of the surface to electromagnetic radiation inside the body;

providing at least one transmitter at one of the opposite longitudinal end surfaces and connecting the transmitter to the at least one body;

providing at least one detector at one of the opposite longitudinal end surfaces and connecting the detector to the at least one body;

transmitting electromagnetic radiation from the at least one transmitter to the at least one body;

reflecting the electromagnetic radiation [[at a]] off the inside surface of [[a]] the body on which ~~exist~~ deposits occur influencing reflection properties for the electromagnetic radiation;

detecting the reflected electromagnetic radiation with the at least one detector;



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generating signals with the detector based upon the deposits at the surface of the body; and

controlling the deposits at the surface with an ion exchanger in dependence on receipt of the signals generated by the at least one detector.

Claim 24 (original). The method according to claim 23, which further comprises:

introducing the electromagnetic radiation into the body; and

detecting the electromagnetic radiation after internal reflection on the surface of the body.

Claim 25 (original). The method according to claim 23, which further comprises performing the transmitting, reflecting, and detecting steps in a liquid-conveying machine.

Claim 26 (original). The method according to claim 23, which further comprises performing the transmitting, reflecting, and detecting steps in a washing machine.



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Claim 27 (original). The method according to claim 23, which further comprises performing the transmitting, reflecting, and detecting steps in a dishwasher.

Claim 28 (previously presented): The device according to claim 1, further comprising a control unit receiving the signals generated by said detector, said control unit controlling said ion exchanger.

Claim 29 (currently amended): The device according to claim 1, wherein said ~~deposit control device~~ ion exchanger visually indicates that excessively thick deposits have occurred.

Claim 30 (currently amended): The device according to claim 1, wherein said ~~deposit control device~~ ion exchanger acoustically indicates that excessively thick deposits have occurred.



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